TROUBLESHOOTING GUIDE	**No. TG0024**	**Ed. 03**
OmniTouch Unified Communication	**Nb of pages : 30**	**Date : 25 July 2005**

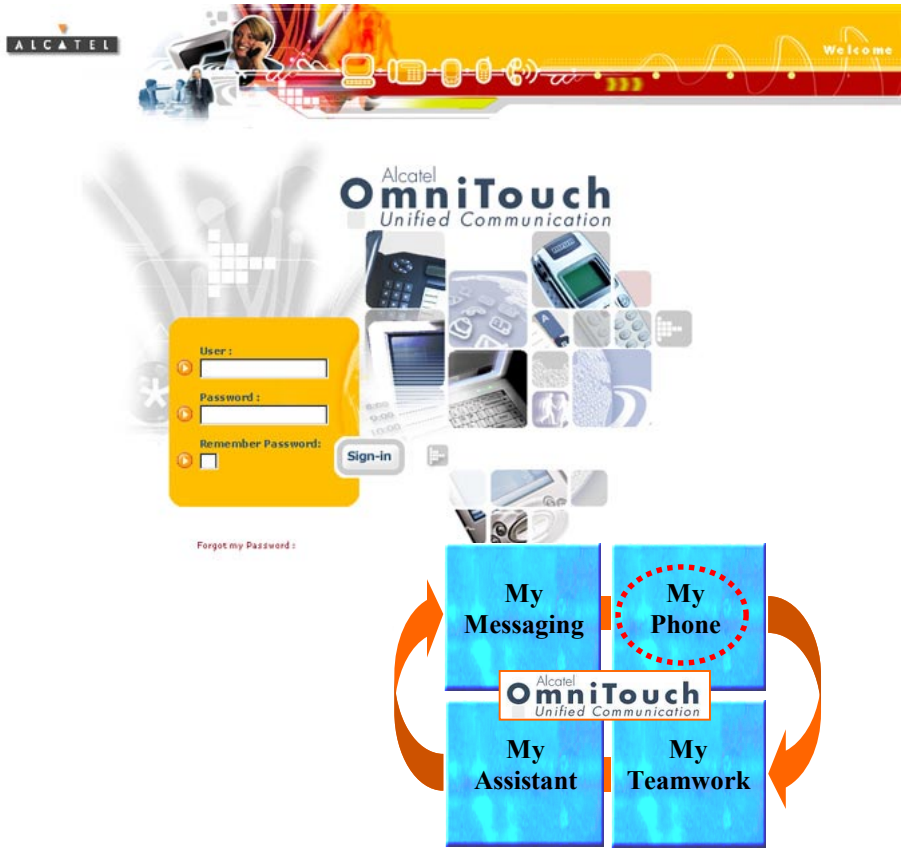
SUBJECT : TROUBLESHOOTING GUIDE FOR IP SOFTPHONE

The objective of this Troubleshooting Guide is to help you to solve problems around IP Softphone applications (IP 4980 Softphone, IP Web Softphone and 4980 Softphone in Nomadic VoIP mode): bad voice quality, application remains in "Initialization in progress" state, audio tuning, etc.

OmniTouch *Unified Communication* 3.0

Troubleshooting Guide for IP Softphone

Release	**R3.0.0 or higher**
Revised	Edition 3 – 25th of July 2005
Summary	Troubleshooting guide for IP Softphone applications (4980 Softphone and Web Softphone) and 4980 Softphone in Nomadic VoIP mode.



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About *Troubleshooting Guide for IP Softphone*

The objective of this Troubleshooting Guide is to help you to solve problems around IP Softphone applications (IP 4980 Softphone, IP Web Softphone and 4980 Softphone in Nomadic VoIP mode): bad voice quality, application remains in “Initialization in progress” state, audio tuning, etc. Document “*Troubleshooting Guide for IP Softphone*“ contains the following chapters:

Pre-requisites and Architectures provides you general information about the protocols, features and concepts used in this document.

Troubleshooting should allow you to identify your troubles and to solve them.

Traces and Log Files indicates how to set debug traces and retrieve log files in order to locate the issues.

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Related documents

- [1] OmniTouch Unified Communication 3.0 – Technical Release Notes
- [2] OmniTouch Unified Communication 3.0 – My Phone: Installation & Administration Guide in a Windows context
- [3] OmniTouch Unified Communication 3.0 – VoIP Characteristics for IP Softphone
- [4] OmniTouch Unified Communication 3.0 – Major Application Flows

This document is not intended to explain the Voice over IP (VoIP) concepts nor to explain how to manage OmniTouch UC and OmniPCX systems.

History of the document

Edition 1 - 24th of February 2005: creation of the document.
Edition 2 - 18th of April 2005: addition of new troubles.
Edition 3 - 25th of July 2005: minor modifications with respect to Release 3.0.6.

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1 Pre-requisites and Architectures

1.1 Pre-requisites

Hardware and software environments

Refer to the document [1] (*Feature List*) for:

- Supported 4980 Softphone client platforms (IP Softphone or Nomadic VoIP mode).
- Supported browsers for IP Web Softphone clients.

Note that the client station must be equipped with a full-duplex soundcard (*Sound Blaster* compatible) and an USB device (IP handset or headset).

OmniPCX system

Requirements are as follows:

- Software release of OmniPCX 4400 must be at least 4.2.
- Software release of OmniPCX Enterprise must be at least 5.0.

VoIP characteristics

Major VoIP characteristics for Softphone applications are indicated in document [3].

☞ **Reader of this document must be familiar with VoIP concepts and IP Softphone applications.**

In this document, we consider that:

- OmniPCX IP addressing has already been completed.
- Racks and boards are created and in service.
- VoIP boards (GD or INTIP) are configured and in service.
- Corresponding software locks are available on OmniPCX side.
- Ghost Z sets (for the Nomadic VoIP mode) are defined on OmniPCX side.
- H323 trunk groups (used for the Nomadic VoIP mode) have been created.
- The Nomadic gateway has been configured through the Web Administration tool (this gateway is in fact the IP address of the INTIP/GD board).

Main restrictions and limitations

- IP Softphone (thick or Web client), as well as 4980 Softphone in Nomadic VoIP mode, is not supported in the Microsoft Terminal Server and Citrix® environments.

- Voice mails 4635 and 4645 cannot be addressed by the IP Web Softphone application (no direct link to the voice mails). Note that voice mails 4635 and 4645 can be addressed by the 4980 Softphone (IP or Nomadic VoIP mode) through the voice mail service dialog box as illustrated below:

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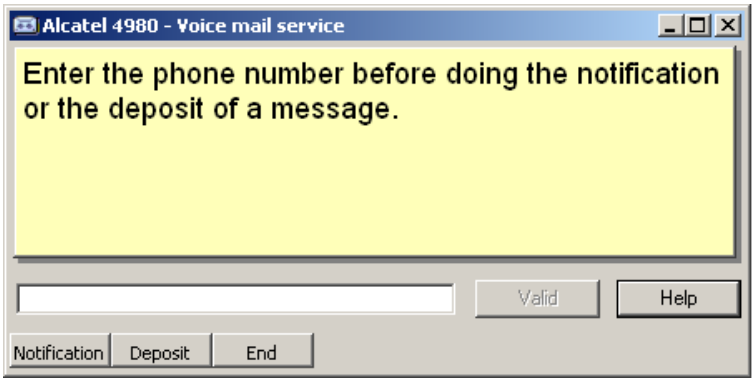

- Other voice mails cannot be addressed by the IP Softphone applications, as local DTMF tones cannot be sent.

BEFORE CALLING ALCATEL'S SUPPORT CENTER

Before calling Alcatel's Business Partner Support Center (ABPSC), make sure that you have read this document and completed the actions suggested for your trouble(s).

Additionally, do the following and document the results so that the Alcatel Technical Support can better assist you:

- Have any information that you gathered while troubleshooting the issue to this point available to provide to the Alcatel Support Centre (system architecture, Ethereal traces, log files...).
- Make sure that relevant information are listed such as bandwidth of the links, equipments like firewalls, PSTN connections...

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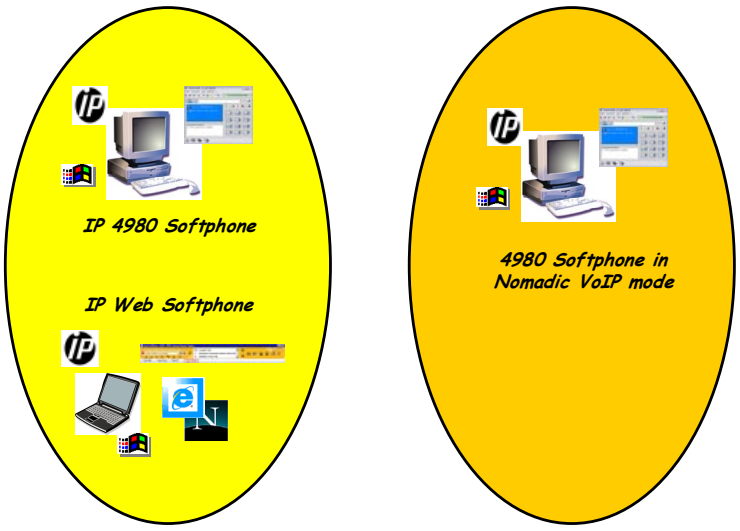
1.2 Architectures

1.2.1 Two kinds of client

We can distinguish here two kinds of client stations according to the protocol used:

- UA (Alcatel proprietary protocol) client:
  - IP 4980 Softphone
  - IP Web Softphone
- H323 client:
  - 4980 Softphone in Nomadic VoIP mode

☞ **Above clients are only available on Microsoft Windows stations as the IP module for the Web Softphone application is designed for Windows only (and therefore cannot be used on other operating systems).**



IP 4980 Softphone and IP Web Softphone

These clients are named "*IP Softphone*" and users are declared as "*Multi-Media PC2*" on OmniPCX side. The signalization used is the proprietary UA (Universal Alcatel) protocol, like for IP Phone sets. These clients use the RTP ABERS stack (ABERS stands for "Alcatel Brest Evolutive RTP Stack").
☞ Refer to the section 1.2.2 for architecture aspects.

4980 Softphone in Nomadic VoIP mode

This client is also named *4980 Nomadic VoIP* and needs to declare:

- A virtual phone set on OmniPCX side (Ghost Z with Nomadic feature).
- An IP trunk on OmniPCX side.
- A Nomadic gateway on OmniTouch UC side.

This kind of client uses the standardized H323 protocol, and like IP Softphone, it uses the RTP ABERS stack.

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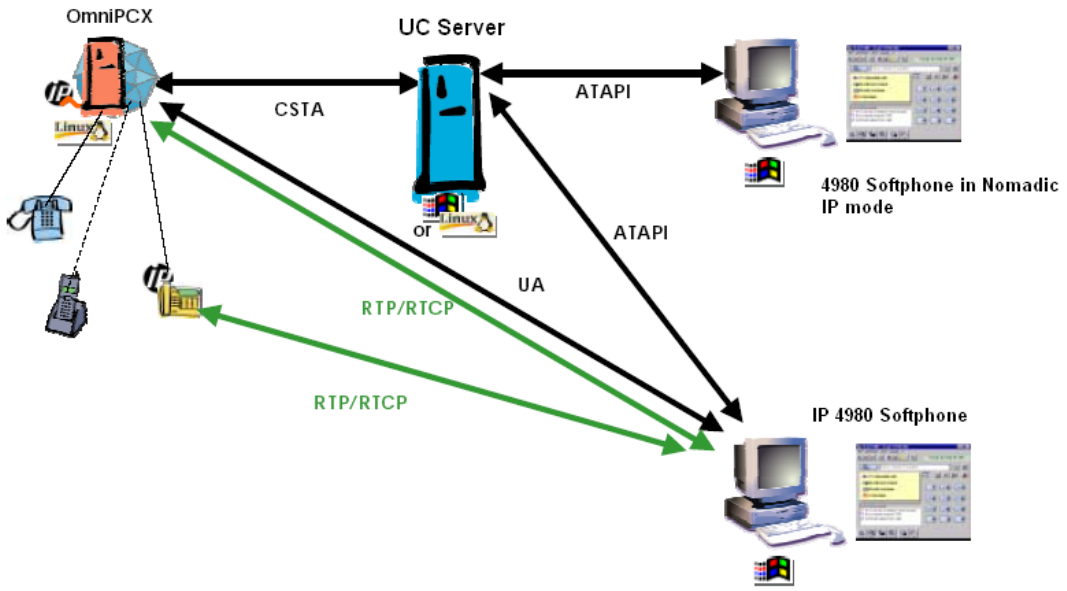
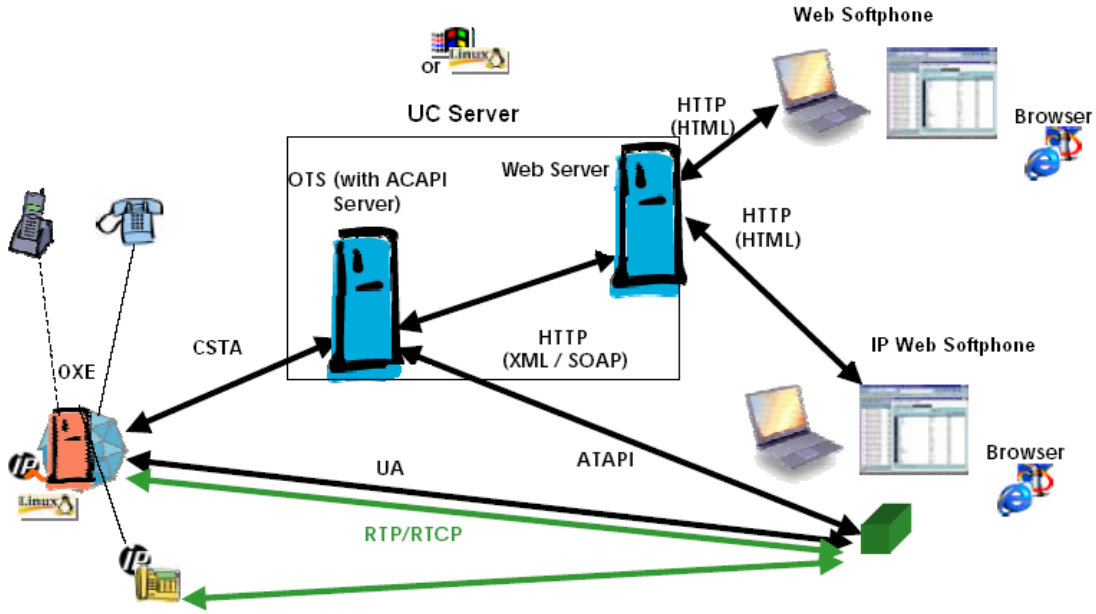
1.2.2 Architectures

Typical architecture for IP 4980 Softphone and 4980 Softphone in Nomadic VoIP mode is as follows:



Typical architecture for IP Web Softphone is as follows:



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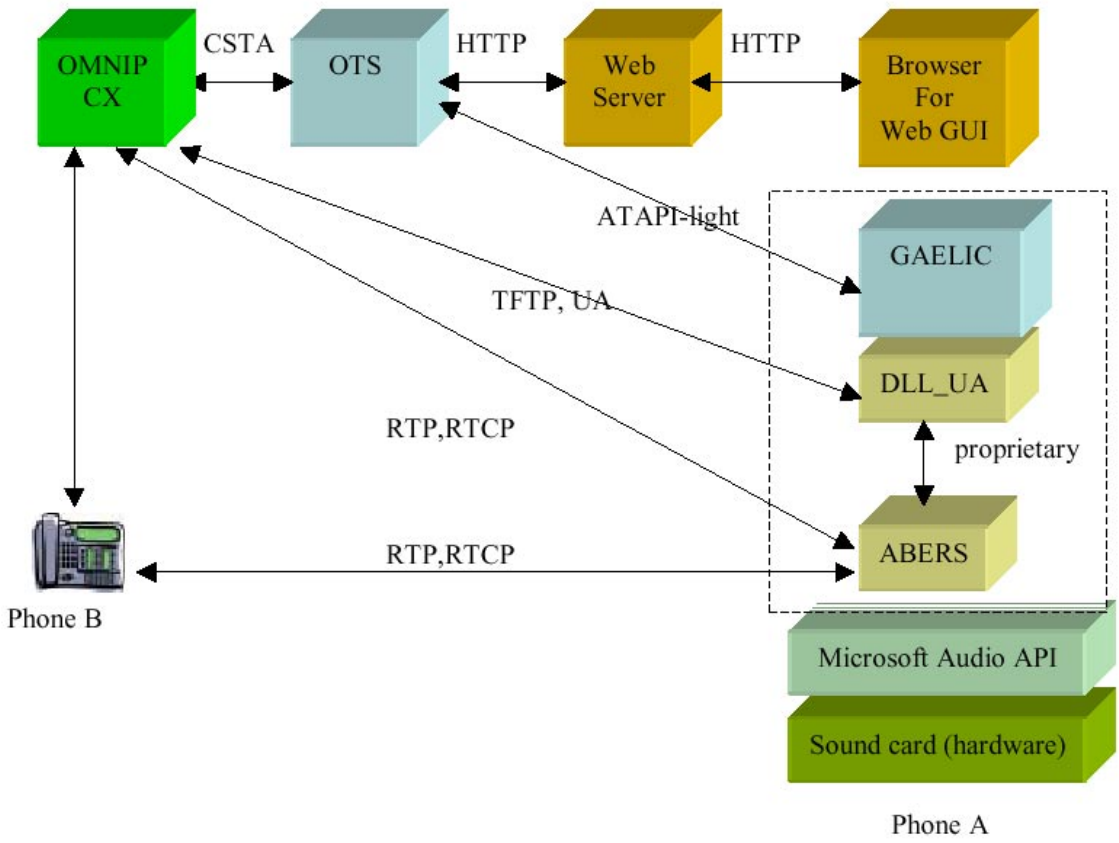
Details for modules and protocols used are as follows (example with IP Web Softphone):



IP module of Softphone applications is composed of:

- **GAELIC**: Generic ATAPI Evolutive LIght Client, an executive binary dedicated to the VoIP processing. Used by IP Web Softphone only.
- **ATAPI-light**: a proprietary protocol (Alcatel Telephony API-light) dedicated to VoIP messages towards the Open Telephony Server (OTS). Used by IP Web Softphone only (versus "full" ATAPI used by 4980 Softphone applications).
- **DLL_UA**: a binary dedicated to UA messages for VoIP signaling.
- **ABERS**: an executive binary dedicated to voice processing, which performs voice packets management, audio sampling and coding management.
- **Microsoft Audio API**: an API that gives access to the soundcard or USB audio device services.
- **Sound_PC (Sound card)**: a DLL for the audio media management. This binary provides the control of the line level signal of microphones and speakers, as well as an audio tune Wizard to calibrate the line level of microphones and speakers for the best audio quality.

  Note: the ringing signal is generated locally on the client machine either through a wave file or a beep system. The callback tone and intrusion beep are also generated locally.

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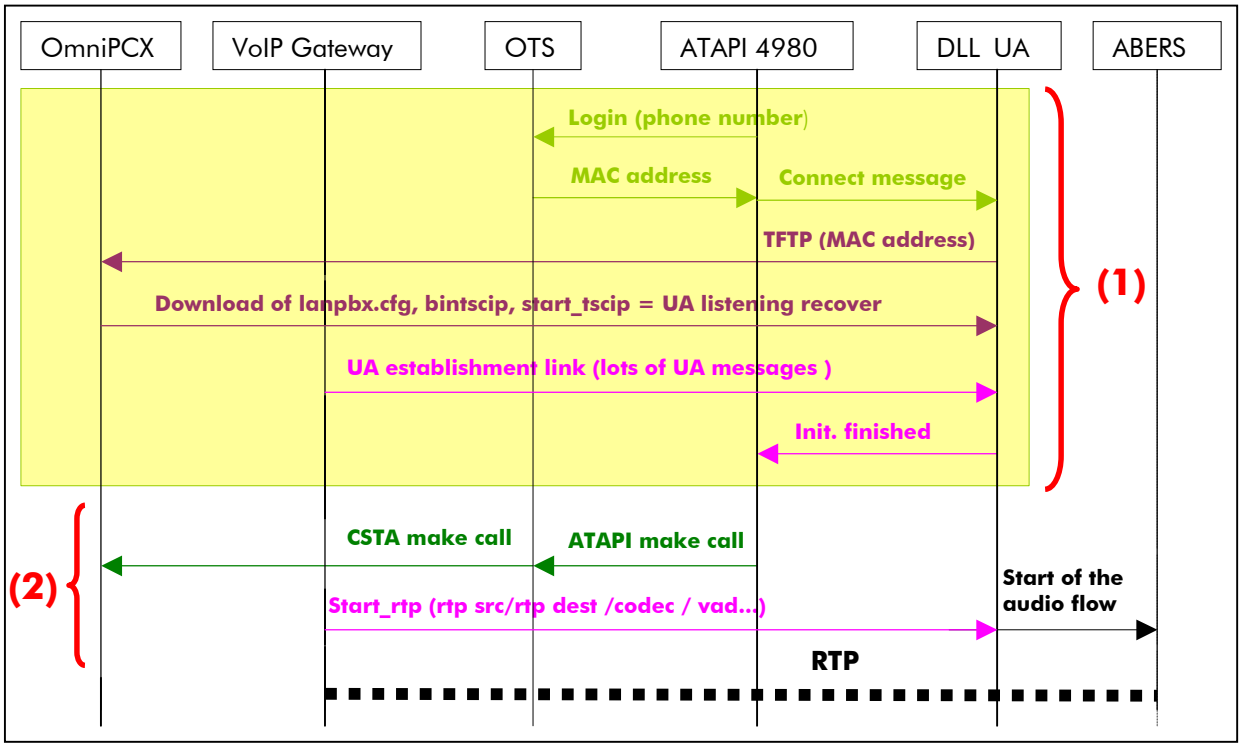
1.2.3 Initialization sequences with IP 4980 Softphone and 4980 Nomadic VoIP

Initialization sequences (1) between the different modules are indicated in the following figure:



Starting an audio flow (through a Make Call request from the 4980 Softphone client) is indicated by sequences (2).

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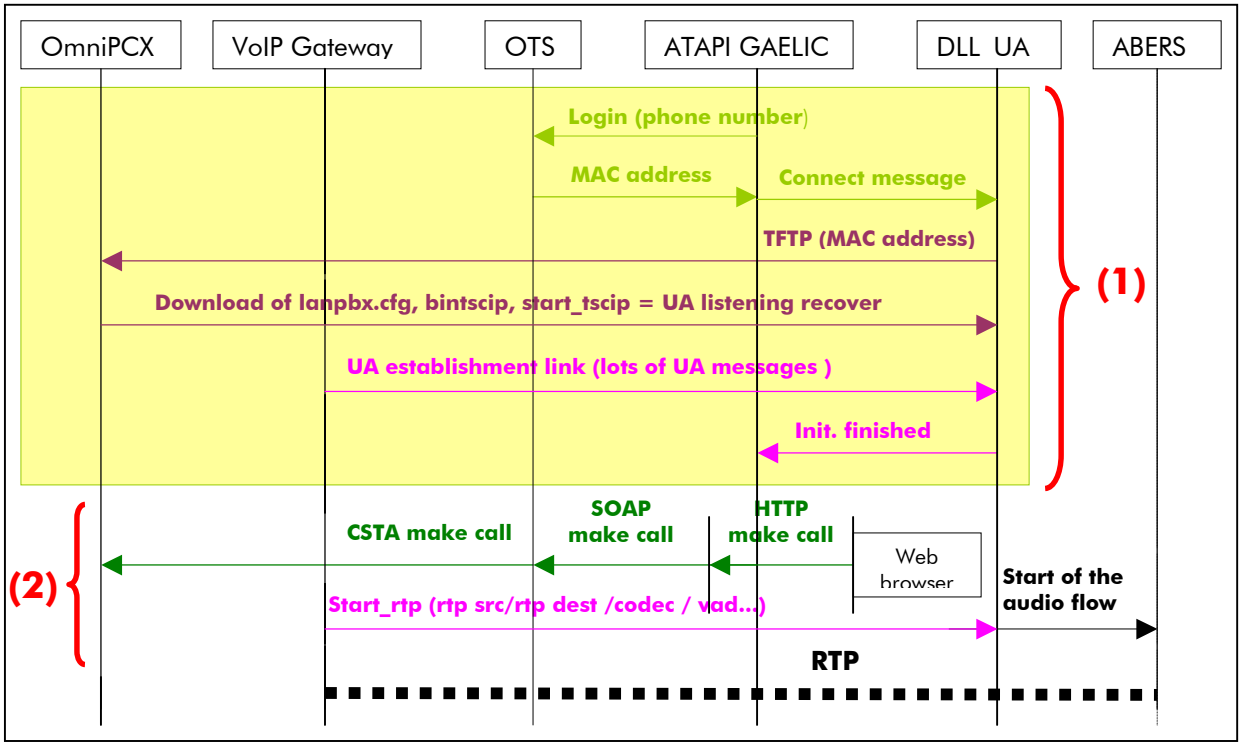
1.2.4 Initialization sequences with IP Web Softphone

Initialization sequences (1) between the different modules are exactly the same than for 4980 Softphone sequences:



Starting an audio flow (through a Make Call request from the Web Softphone client) is indicated by sequences (2).

1.2.5 Processes

Processes used on client machines are as follows:

- IP 4980 Softphone and 4980 Nomadic VoIP: *abers.exe*
- IP Web Softphone: *abers.exe* and *gaelic.exe*

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2 Troubleshooting

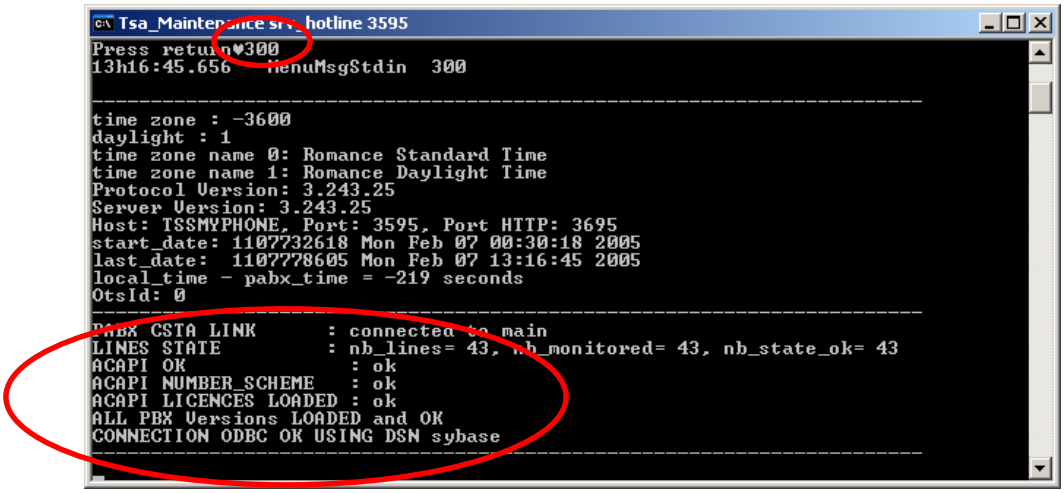
The first step in any troubleshooting process is to gather information. The more information you have about symptoms and characteristics of a problem, the better your chances are for solving the problem quickly and efficiently. Typical questions you might ask at this stage before beginning to troubleshoot are as follows:

- Do the symptoms occur regularly or intermittently ?
- How many users are involved ?
- When was the first occurrence of the symptom ?
- Was there any change in any hardware or software components ?
- Was there any change on the Data Network, new applications ?
- Was there any recent change in the configuration ?

  .../...

2.1 What must be checked first ?

First step consists of using the OTS Maintenance console to check that all links (CSTA and ACAPI) are fully operational like in the example below (Windows console):


Tsa_Maintenance srv hotline 3595
Press return 300
13h16:45.656 MenuMsgStdin 300
time zone : -3600
daylight : 1
time zone name 0: Romance Standard Time
time zone name 1: Romance Daylight Time
Protocol Version: 3.243.25
Server Version: 3.243.25
Host: TSSMYPHONE, Port: 3595, Port HTTP: 3695
start_date: 1107732618 Mon Feb 07 00:30:18 2005
last_date: 1107778605 Mon Feb 07 13:16:45 2005
local_time - pabx_time = -219 seconds
OtsId: 0
PABX CSTA LINK : connected to main
LINES STATE : nb_lines= 43, nb_monitored= 43, nb_state_ok= 43
ACAPI OK : ok
ACAPI NUMBER_SCHEME : ok
ACAPI LICENCES LOADED : ok
ALL PBX Versions LOADED and OK
CONNECTION ODBC OK USING DSN sybase

How to open this console server side:

- Windows® OS: open the Windows *Start* menu, select *Programs*/*Alcatel OmniPCX OTS*/*Maintenance* and then select *OTS Maintenance*.
- Linux® OS: as *root*, type the following command: `/opt/ALCHTS/OTS/tsa_maintenance`

How to check the status:

- Just enter the command *300*.

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2.2 What should I do if previous step is OK ?

Following table proposes you different problems that have been identified and possible solutions to resolve them. Problems described below are the most common cases you may encounter when using the IP Softphone applications.

Electronic document only: once the problem identified, click the link(s) in the column "Checkpoint(s)". This will allow you to directly go to the corresponding section(s).

PROBLEM MET	CHECKPOINT(S)
The voice quality is bad.	Checking the Quality of Service (QoS) – section 2.3.1 Checking the Windows Task Manager – section 2.3.2 Checking the Audio tuning – section 2.3.3
There are short cuts in the voice (gap).	Checking the Windows Task Manager – section 2.3.2 Checking the Audio tuning – section 2.3.3
The IP Softphone stays in "Initialisation in progress" state when starting the application.	Analysing the "Initialisation in progress" state – section 2.3.4 Checking "abers" and "gaelic" processes – section 2.3.5
The IP Softphone application is running and enters in "Initialisation in progress" state.	Application is running and enters in "Initialisation in progress" state – section 2.3.4.1
The 4980 Softphone in Nomadic VoIP mode stays in "Initialisation in progress" state when starting the application.	"Initialisation in progress" with 4980 Softphone in Nomadic mode – section 2.3.4.2 Port(s) must be opened when using a VPN or a Firewall – section 2.3.4.3 Checking the INTIP configuration – section 2.3.4.4
Impossible to start the IP Web Softphone application	Checking settings for IP Web Softphone – section 2.3.6
Audio device warning	Checking audio devices – section 2.3.7
Calls cannot be launched and 4980 Softphone in Nomadic VoIP mode is frozen	Checking the Nomadic gateway – section 2.3.10
The 4980 Softphone in Nomadic VoIP mode doesn't start because not enough resources are available.	Checking Nomadic Ghost Z resources – section 2.3.8 Checking the voice codec – section 2.3.9 Checking the INTIP configuration – section 2.3.4.4

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2.3 Checkpoints

2.3.1 Checking the Quality of Service (QoS)

Layer 2 Ethernet (802.1P/Q) **is not supported** by IP Softphone applications. Only TOS/DiffServ for Layer 3 IP is available. The TOS (Type Of Service) can be managed on the client machine (Windows 2000 or Windows XP) through the Windows registry (use the *regedit* tool for example):

```
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters]
"DisableUserTOSSetting"      REG_DWORD          0 or 1
```

Field *DisableUserTOSSetting* sets to 0 means that the TOS is not managed by the computer but by the application. So, **set this value to 0 so that the IP Softphone application will be able to use their own TOS/DiffServ.**

☞ If value "*DisableUserTOSSetting*" does not exist in "*Parameters*" key, you must create it. To do so through the *regedit* tool, go to the *Edition* menu, select *New* / *DWORD value* and enter the new value "*DisableUserTOSSetting".*

If TOS/DiffServ is managed by the application (value 0 in above key), you must activate the TOS/DiffServ on OmniPCX side to allow flows on the data network to assign a priority.
To do so (through *mgr* system tool for example), go to the *IP* section, select *Go down hierarchy*, and modify *IP Quality of service Category* as illustrated below:

```
Consult/Modify: IP Quality of service Category

          Node Number (reserved) : 20
            Instance (reserved) : 1
 IP Quality of service Category Id : 2
                  802.1p used + False or True
                802.1p priority : 7
                     VLAN ID : 0
                TOS/diffServ : 46
                   UDP Lost : 15
                UDP Lost Reinit : 7
                 UDP Keep Alive : 3
```

☞ Recommended value for the *TOS/DiffServ* field is 46 (refer also to the Alcatel OmniPCX Enterprise documentation).

Note that other parameters must be checked for the voice quality:

- Delay in packets (refer to the standard ITU G114):
  - **Between 0 and 150 ms**: normal conversation
  - **Between 150 and 300 ms**: acceptable quality
  - **Between 300 and 700 ms**: bad quality

- Loss of packets
  - Limit of **20%**. Beyond, the audio signal is no more audible.
  - **More**: no communication possible, very bad quality

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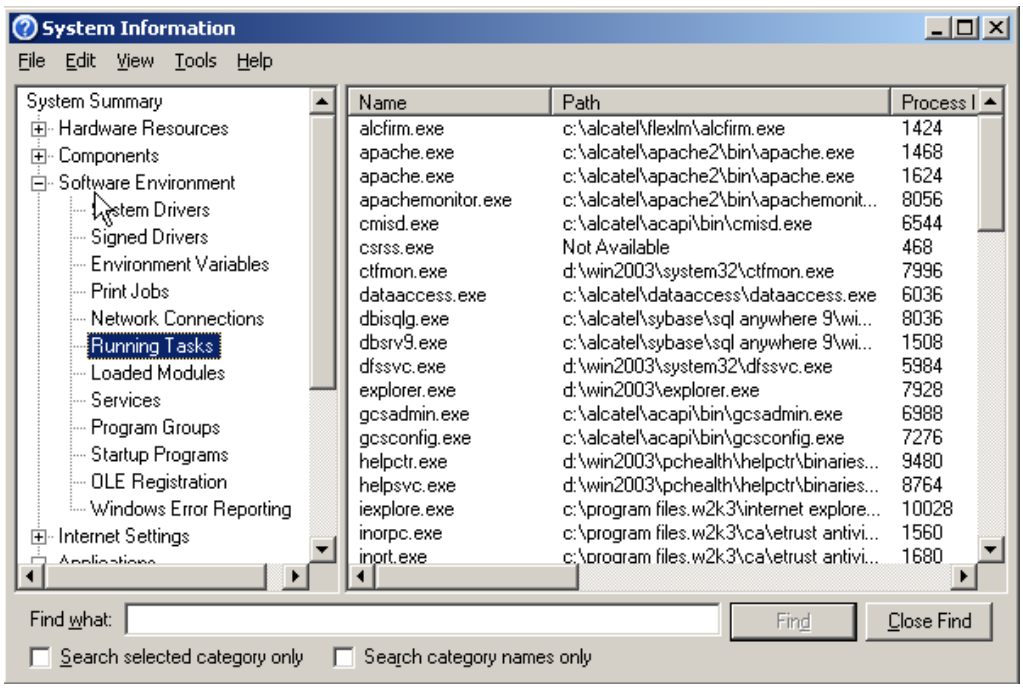
☞ Use external tools like Aviso (VoIP Assessment Tool) to check above parameters. For more details, please consult the Alcatel Business Partner Web site at the following URL: http://www.businesspartner.alcatel.com/. Go to the section *e-Support* and expand the following links: *Technical Support/Communication Server/Technical Communication*. Then select the section *Voice over IP Engineering/Tools* and have a look to the document "*VoIP Assessment Tool Presentation & Benefits*".

2.3.2 Checking the Windows Task Manager

If gaps appear in the conversation, check the load of the processor(s) on your computer and check that a task does not take all the CPU time. To do so, launch either the Windows *Task Manager* or the *System Information* window (command *msinfo32* through the *Execute* menu of the Windows *Start* menu).
Example on a Windows XP station by using *System Information* application:



Note: to provide system information to the Alcatel Technical Support, when required, export all the information through a text file. To do so, simply select the *Export* item from the *File* menu.

Since Release 2.0.6.5b of OmniTouch UC, an enhancement for the voice quality has been implemented if the load of the CPU becomes too high (80% to 100%). Alcatel has referenced this improvement with the following Fault Report number:

XTSce26550 - 4980 2.0.6.2/R3.113.24//Bad voice quality (echo, cuts) when using 4980 Softphone (MMPC2)

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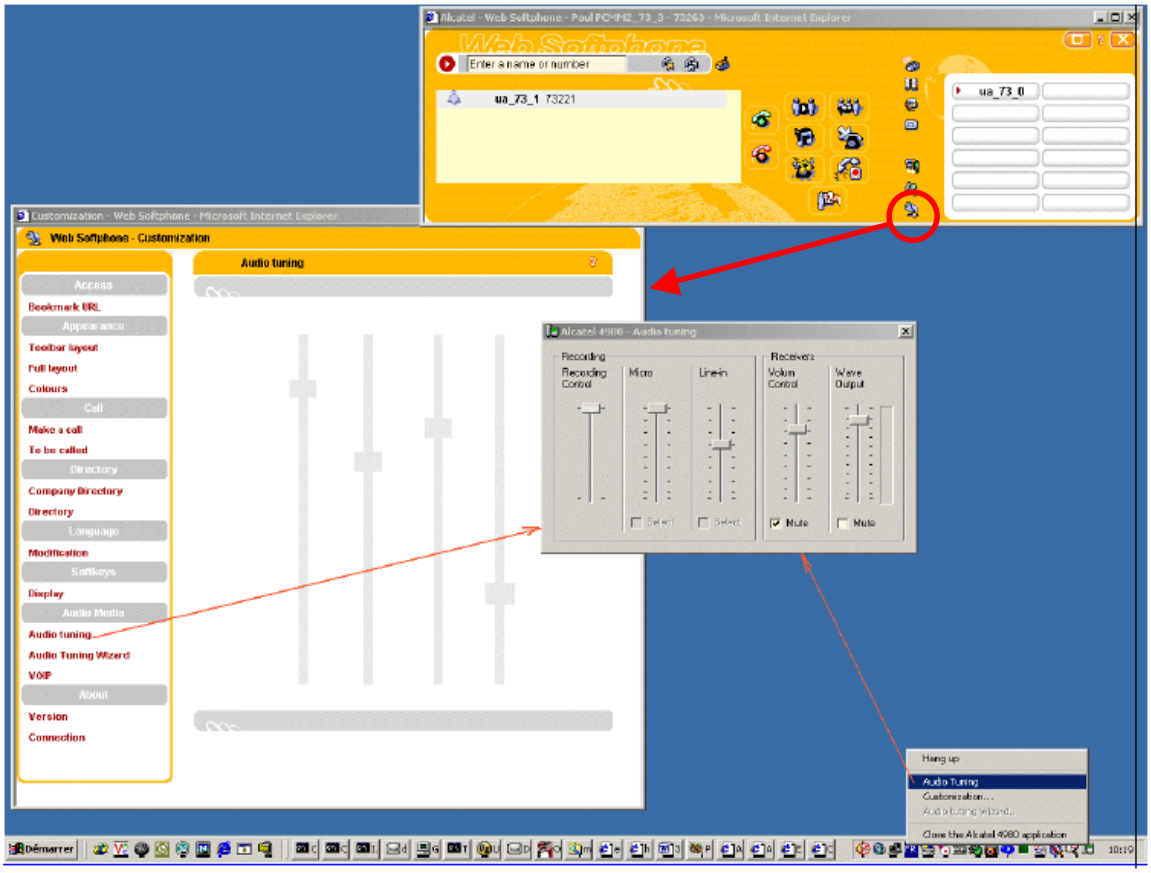
2.3.3 Checking the Audio tuning

When voice quality is too bad, the problem may come from audio tuning parameters. The volume level, the microphone settings and the volume control of receivers must not be tuned too high.

The audio medial control window is available on the Softphone application when the user is engaged in a conversation. Example with IP Web Softphone application:



Alcatel strongly recommend using USB IP handsets (*) or USB headsets (**) if the voice quality is bad due to the soundcard used on the client computer.

(*) Eutectics IPP 200 handsets fully certified from Release 3.0.6.
(**) Support of GN 8120 and GN 8110 USB adapters from our Application Partner GN Netcom (from Release 3.0.6).

The Audio tune Wizard is only available when the phone set is in idle state. Example with IP Web Softphone application:

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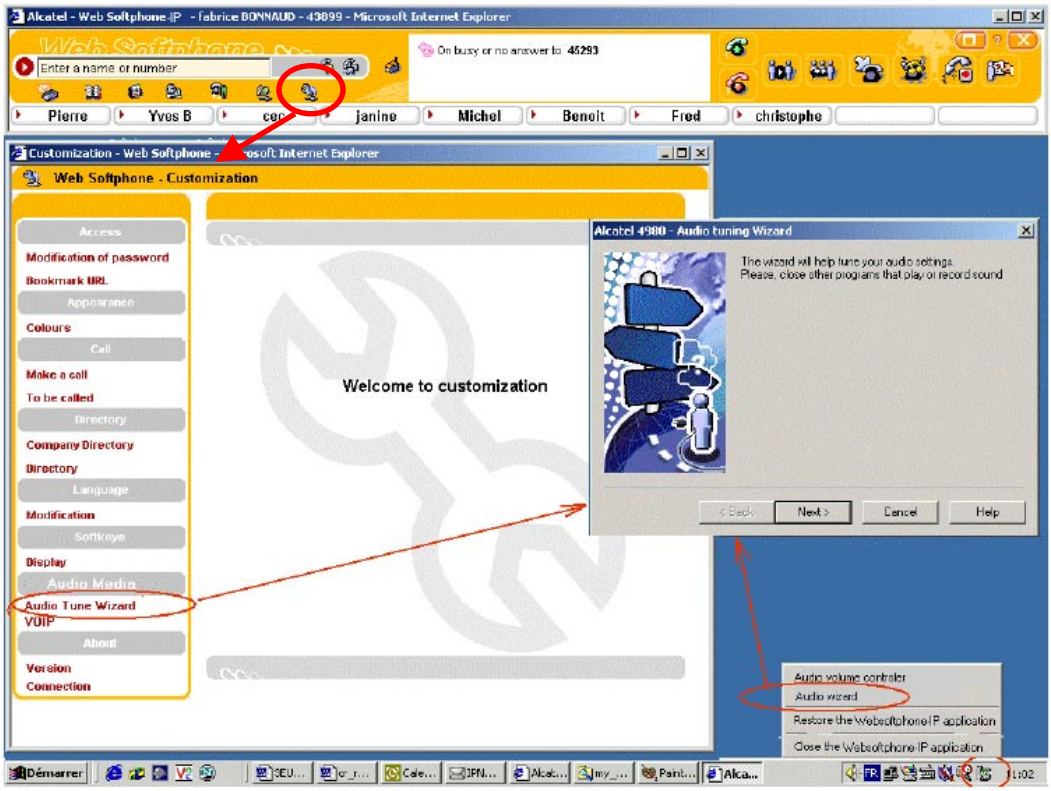
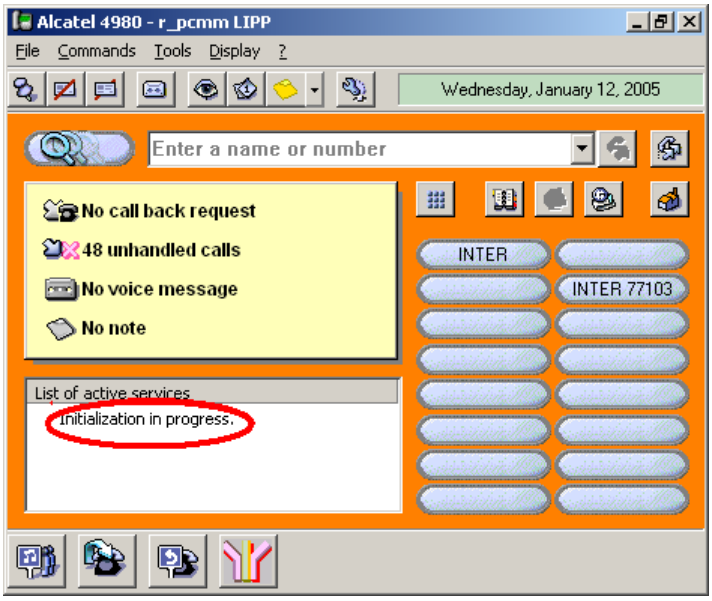


Note: with IP 4980 Softphone application, go to the *Tools* menu and select the *Audio tuning Wizard* item.

2.3.4 Analysing the “Initialisation in progress” state

When starting the Softphone application, the “Initialisation in progress” state is displayed on you Softphone client. This is a normal behaviour as initialisation sequences (see sections 1.2.3 and 1.2.4) are performed between your client and the IP Gateway (INTIP, GD or GA):



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This state takes few seconds then the message disappears. If the message remains, this indicates a trouble between the Softphone client and the IP gateway. Refer to the following sub-sections to solve this problem.

2.3.4.1 Application is running and enters in “Initialisation in progress” state

If this problem appears after the initialisation phase, i.e. the client application is running well but suddenly enters in this state, check your software version because this problem has been solved since Release 2.0.6.5.b of OmniTouch UC. Alcatel has referenced this issue under the following Fault Report number:

XTSce35831 – 4980 Softphone (MMPC2) stays in state "Initialization in progress

2.3.4.2 “Initialisation in progress” with 4980 Softphone in Nomadic mode

4980 Nomadic VoIP is using the H323 protocol and specific filters may have been set on firewalls. Thus, first action to perform is to check the firewall settings.
Note that H323 is not compatible with the Network Address Translation (NAT) and you must use a VPN tunnelling if necessary.

2.3.4.3 Port(s) must be opened when using a VPN or a Firewall

End-users with a VPN (Virtual Private Network) connection or behind a Firewall may enter in the “Initialisation in progress” state because corresponding application ports are not opened. Refer to the document [4] for port numbers that must be opened for Softphone applications.

2.3.4.4 Checking the INTIP configuration

The INTIP link may have a problem. Perform first a *ping* command to the INTIP board to be sure that the IP board is reachable.

Typical questions you might ask are as follows:

- Is the INTIP board really started ?
- Have IP trunks been declared ?
- Is a VLAN managed ?
- Are IP Phone sets running ?
- Can the Microsoft NetMeeting application be used and calls performed ? (this will check the H323 aspect for 4980 Nomadic VoIP application)

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2.3.5 Checking “abers” and “gaelic” processes

When closing the IP Web Softphone application, be sure to use the *Close* button and not the Close box of the browser:

Alcatel - Web Softphone - christophe MUNINGER - 77157 - Microsoft Internet Explorer fourni par Alcatel
Enter a name or number
Home
Boss
Phil
Support

When closing the application through the browser’s Close box, the VoIP processes *abers* and *gaelic* will not be closed. Thus, at the next connection, the application will remain in “Initialisation in progress” state.
If the application has been badly closed, you must manually stop the VoIP processes through the Windows *Task Manager* application.

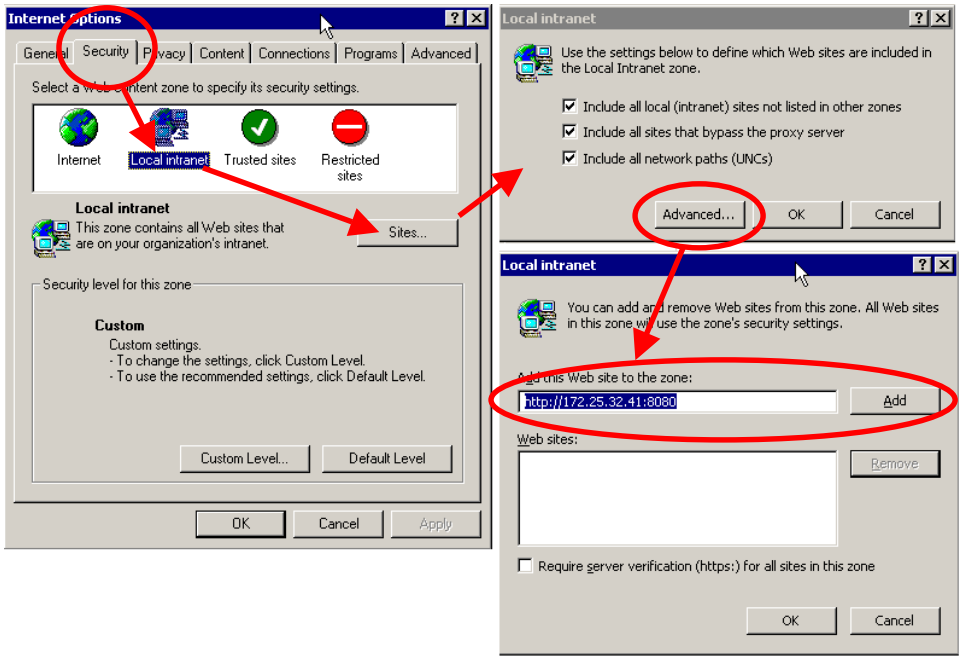
2.3.6 Checking settings for IP Web Softphone

Following checks or actions must be performed if the IP Web Softphone application cannot start after the authentication phase:

2.3.6.1 Adding the Web server in the Intranet list

From your favourite browser, open the Internet options and add the address of the Web server in the Local Intranet area.

Example with Internet Explorer:
Go to the *Tools* menu and select *Internet Options*. In the *Security* tab, click the *Local intranet* icon and then the *Sites* button. In the *Local intranet* window, click the *Advanced* button and enter the URL of the Web server as illustrated below. Click the *Add* button and close all the windows through the OK buttons.



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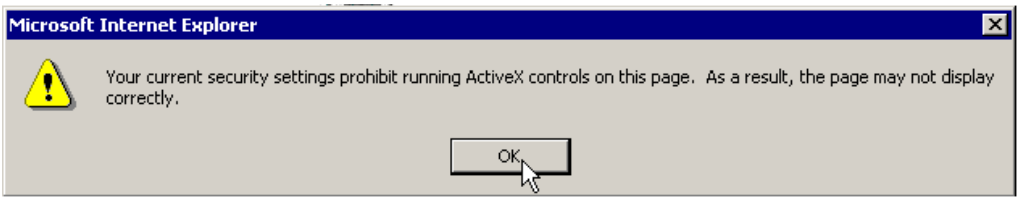
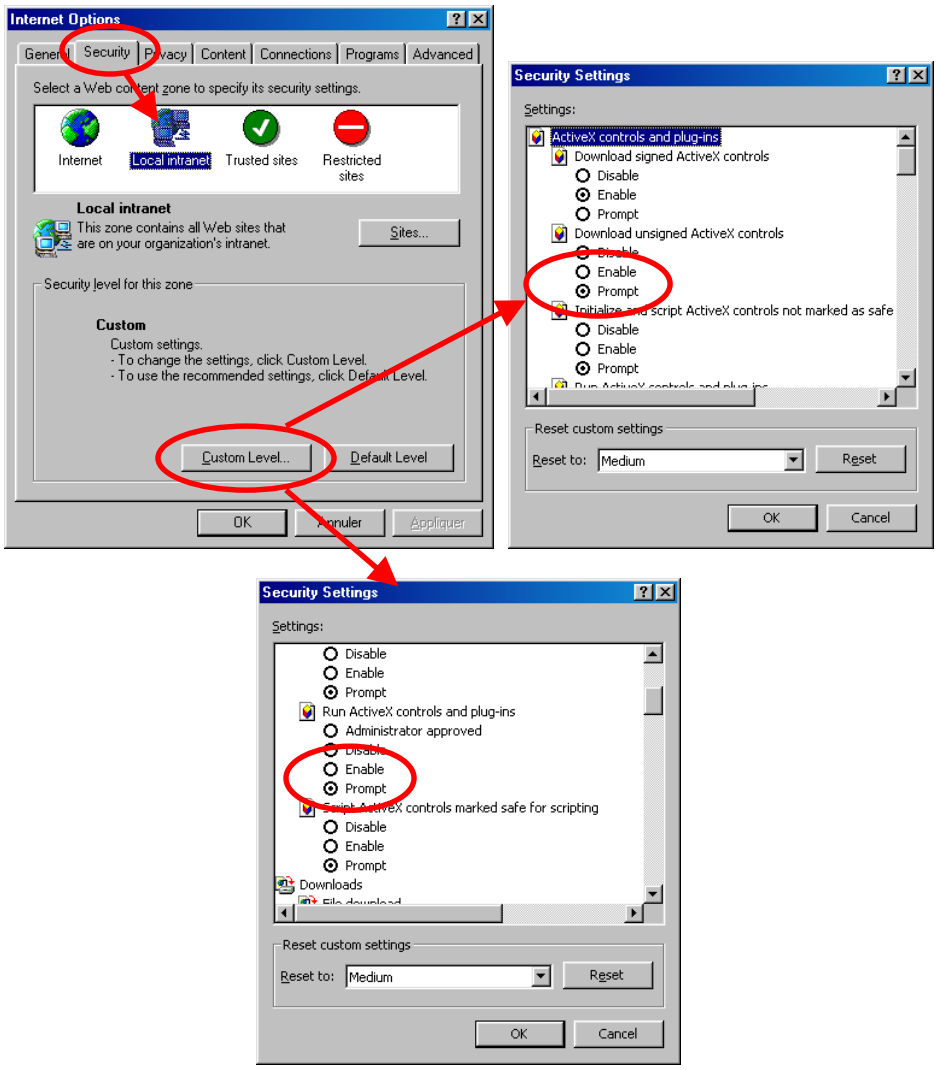
2.3.6.2 Activating ActiveX controls

If the following warning message appears, ActiveX controls have not been activated in the Internet browser:


Microsoft Internet Explorer
Your current security settings prohibit running ActiveX controls on this page. As a result, the page may not display correctly.
OK

Example with Internet Explorer:
Go to the *Tools* menu and select *Internet Options*. In the *Security* tab, click the *Local intranet* icon and then the *Custom Level* button. In the *Security Settings* window, select *Prompt* or *Enable* for the following entries:

- *Download unsigned ActiveX controls*
- *Run ActiveX controls and plug-ins*



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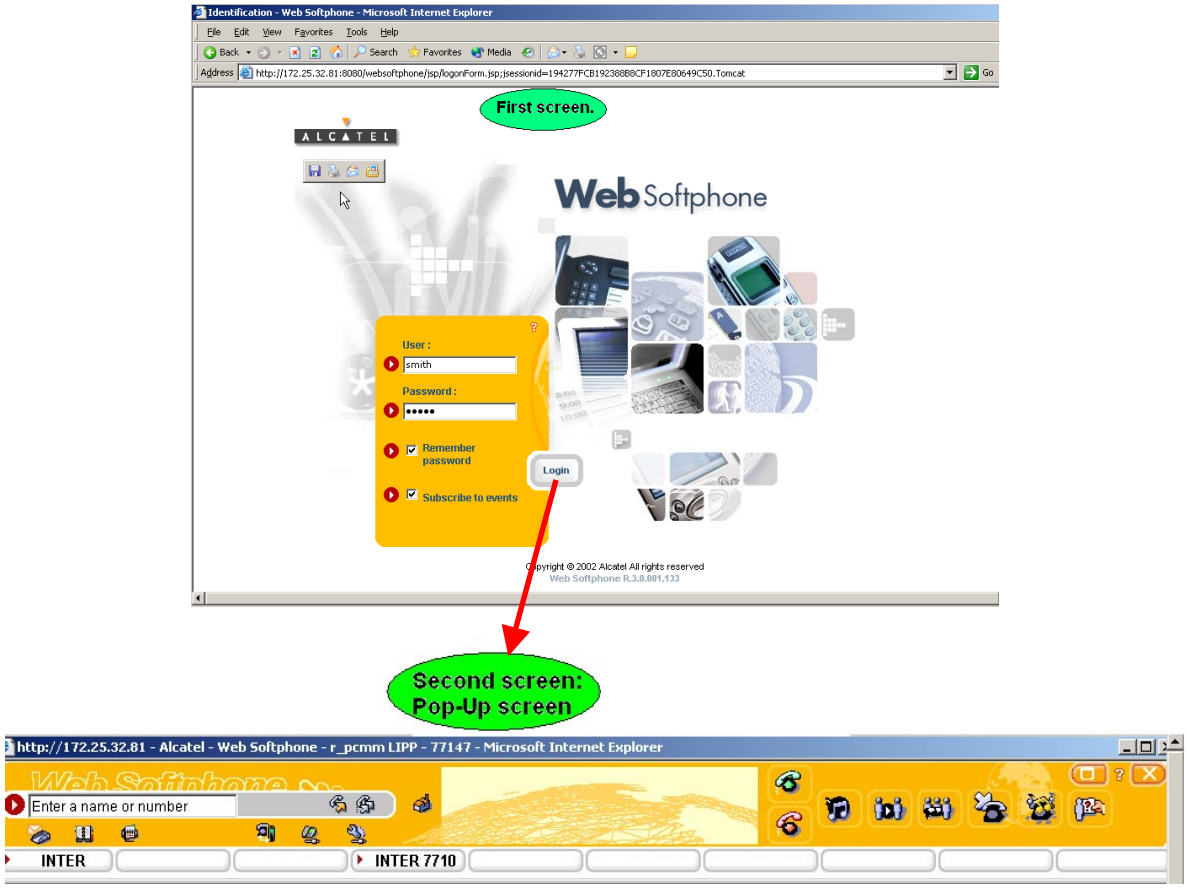
2.3.6.3 Enabling Pop-ups

The (IP) Web Softphone application is considered as a pop-up window for Internet browsers:



Today, lots of tools exist (like the Google bar) to block most unwanted pop-up windows from appearing. Microsoft Windows XP Service Pack 2 (SP2 fully supported from Release 3.0.6) introduces a native “Pop-up Blocker” tool in Internet Explorer.

☞ Refer to the documentation of these various tools to enable the (IP) Web Softphone application running.

Windows XP SP 2 specifics

You can enable/disable Pop-up Blocker following three different methods:

- Prompt at first occurrence. A prompt appears before the first pop-up window appears that asks the user to enable Pop-up Blocker.
- The *Tools* menu. In Internet Explorer, *Tools* menu, click *Pop-up Blocker*, and then click *Turn Off/On Pop-up Blocker Windows*.
- Internet Options. In Internet Explorer, *Tools* menu, click *Internet Options*, click the *Privacy* tab, and then click *Block pop-up windows*. You can then click *Settings* to configure Pop-up Blocker settings.

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When the settings window of the Pop-up Blocker is displayed, you can select three different Filter levels:

- High: blocks all pop-ups.
- Medium: blocks most automatic pop-ups.
- Low: allow pop-ups from secure sites.

If the user selects the Low or Medium level, the (IP) Web Softphone application will not be affected by this new Microsoft Windows XP mechanism. If the user wants to use the High level filter, he must allow pop-ups from specific Web sites by adding the URL to the "Allowed sites" list. For this configuration, in Internet Explorer, go to the *Tools* menu, click *Pop-up Blocker* and then click *Pop-up Blocker settings*. In the exception zone, enter the URL for the IP Web Softphone application.

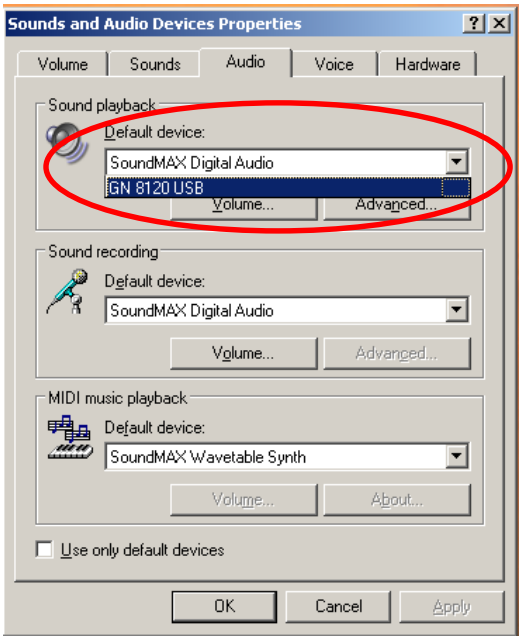
2.3.7 Checking audio devices

If the following warning message appears:

Typical questions you might ask are as follows:

- Is the audio device configured ?
- What kind of audio device is configured ?
- Is a full-duplex soundcard used ?
    - To check that, launch 2 recorders: one is recording and the other one is listening an audio file. If an error message appears, this means that the soundcard is not full duplex.

☞ Sounds and audio devices properties (see screenshot below) are available through the Windows *Start* menu, *Parameters*, *Control Panel*:



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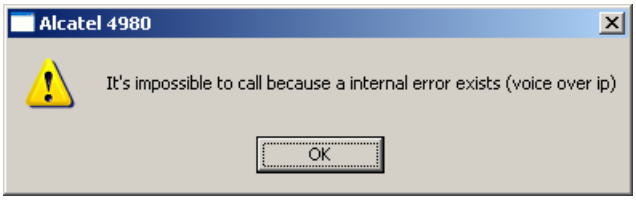
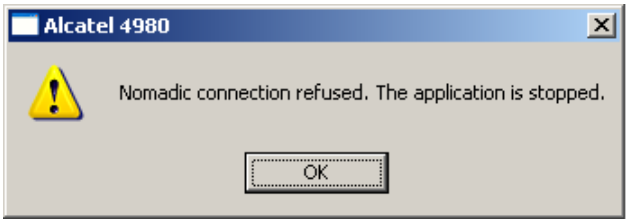
The following warning message appears if more than one IP device is launched on the client machine (i.e. IP 4980 Softphone is launched and you are trying, for example, to launch the IP Web Softphone application):



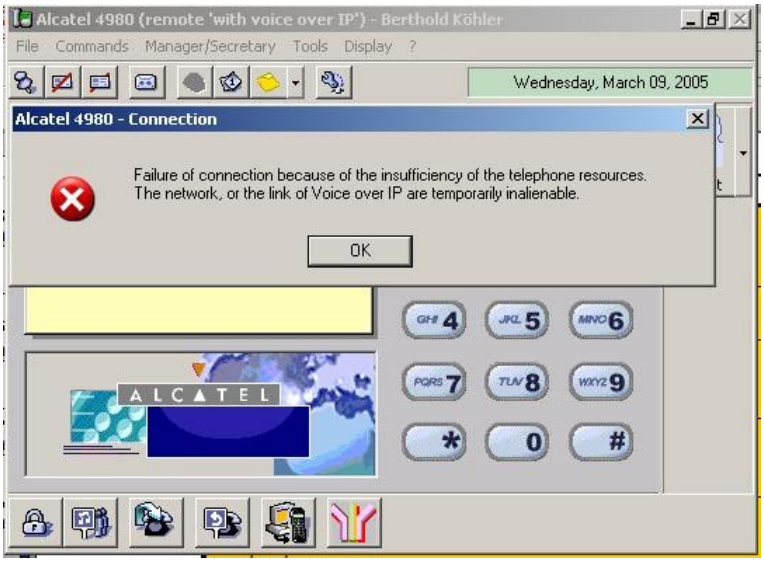
2.3.8 Checking Nomadic Ghost Z resources



Above warning message mainly occurs if Nomadic Ghost Z sets are not available (because not declared or busy).
Use the OTS Maintenance console and the menu 20 to check Ghost Z resources (create, if needed, additional Ghost Z sets on OmniPCX side).

2.3.9 Checking the voice codec

The following error message warns you that you are using the Nomadic VoIP mode with the G729 voice codec: this configuration is not supported and you must use either G711 or G723 on OmniPCX Enterprise side.
Note that this error message also appears if IP trunks have not been managed on OmniPCX side.


Alcatel 4980 (remote 'with voice over IP') - Berthold Köhler
File Commands Manager/Secretary Tools Display ?
Wednesday, March 09, 2005
Alcatel 4980 - Connection
Failure of connection because of the insufficiency of the telephone resources.
The network, or the link of Voice over IP are temporarily inalienable.
OK
ALCATEL

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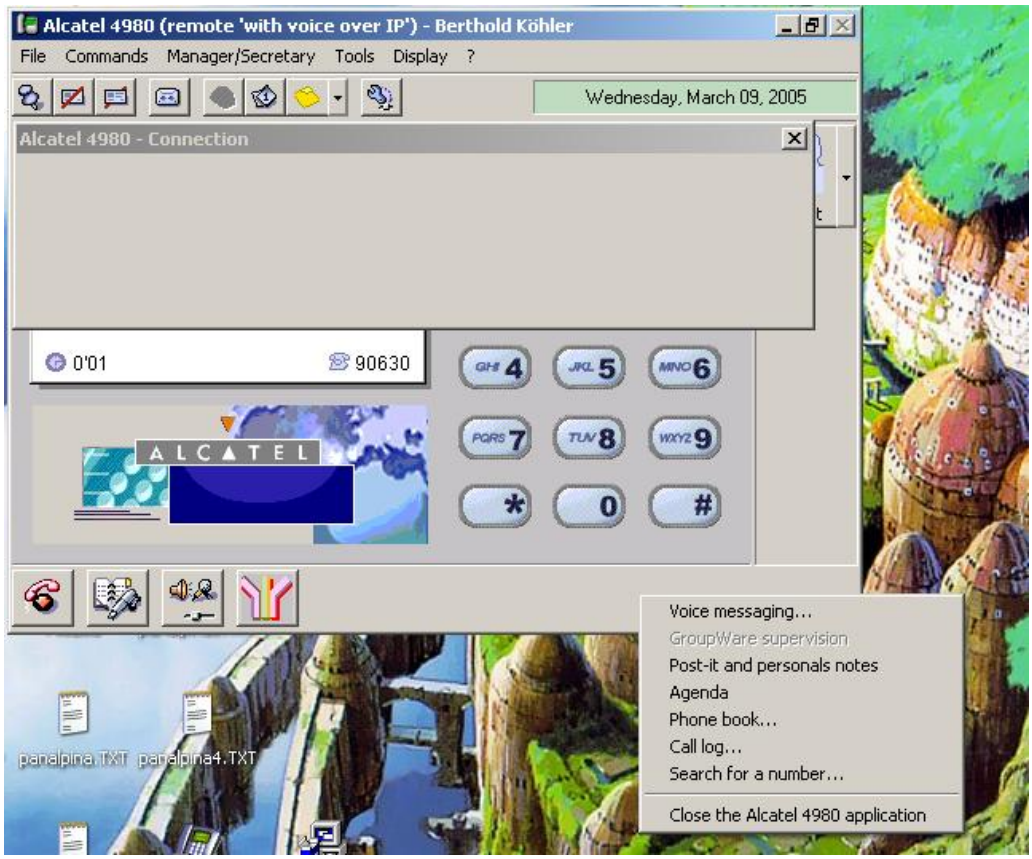
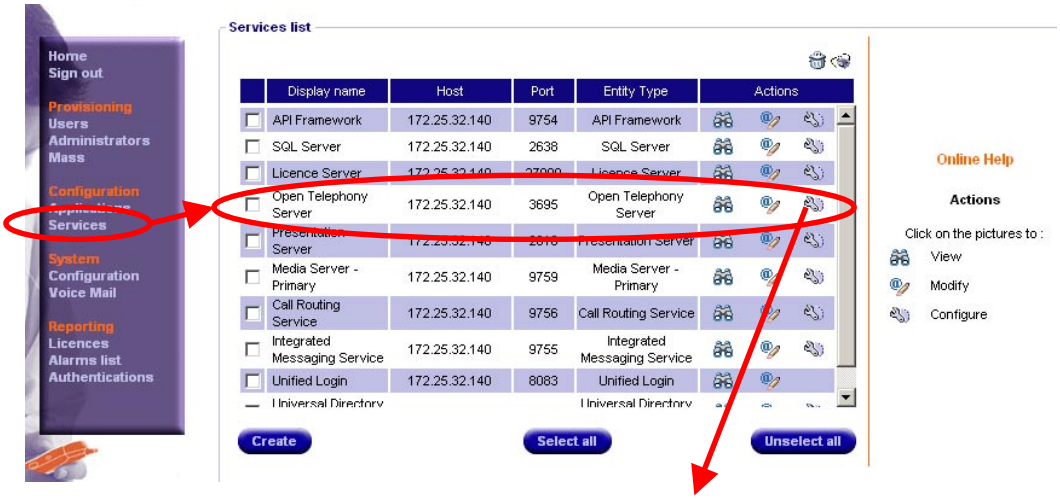
2.3.10 Checking the Nomadic gateway



In above screenshot, a call has been launched from the 4980 in Nomadic VoIP mode. After a few seconds, the 4980 is frozen and the only way to exit from this state is to kill the 4980 binary through the Task Manager.
This trouble appears because the Nomadic gateway has not been configured on OmniTouch UC side. To solve this problem, use the Web Administration tool and indicate the IP address of the INTIP/GD board, as indicated below:



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Click the *Configure* button, then the *Next* button to manage the Nomadic gateway:

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3 Traces and Log files

This chapter indicates how to set debug traces and how to retrieve log files when advanced investigation is needed. These traces, if required, must be sent to the Alcatel Technical Support (through the Alcatel Business Partner Support Centre) for analysis.

3.1 "Pcmm.cfg"

"*pcmm.cfg*" is a file to create and to copy under the "*...\A4980\Alcatel 4980*" directory.

To generate Multi-Media PC 2 traces, include the following directives in *pcmm.cfg* file:

```
output=traces.log
pcmm=3
ua=3
tftp=3
nomadic=3
```

output specifies the log file that will be created under the "*...\A4980\Alcatel 4980*" directory.

To generate ABERS traces, include the following directives in *pcmm.cfg* file:

```
abers=3
```

Results will be logged in the file *abers.log*.

3.2 "Abers_online"

Use *abers_online* tool to retrieve ABERS traces and statistics. In a DOS command prompt, run `abers_online.exe` with the following parameters:

- Port of *abers_online.exe* (6100)
- IP address of the computer where *abers.exe* is running
- Port of RTP process *abers.exe* (5000)

Example: `u:\voip\util> abers_online.exe 6100 155.123.56.12 5000`

You can thus set additional parameters to debug the IP stack. Type "?" to get help and "exit" to quit this program. Available traces and statistics are as follows:

- jitter_buff
- rtcp_stats
- rtp_info
- trace (abers | pcmm) (on | off | level)
- trace infile (on | off)
- version

Example: to get traces on ABERS process, type the following command: `trace abers on 3`

Results file *abers_online_6100.log* records all information appearing in the DOS console.

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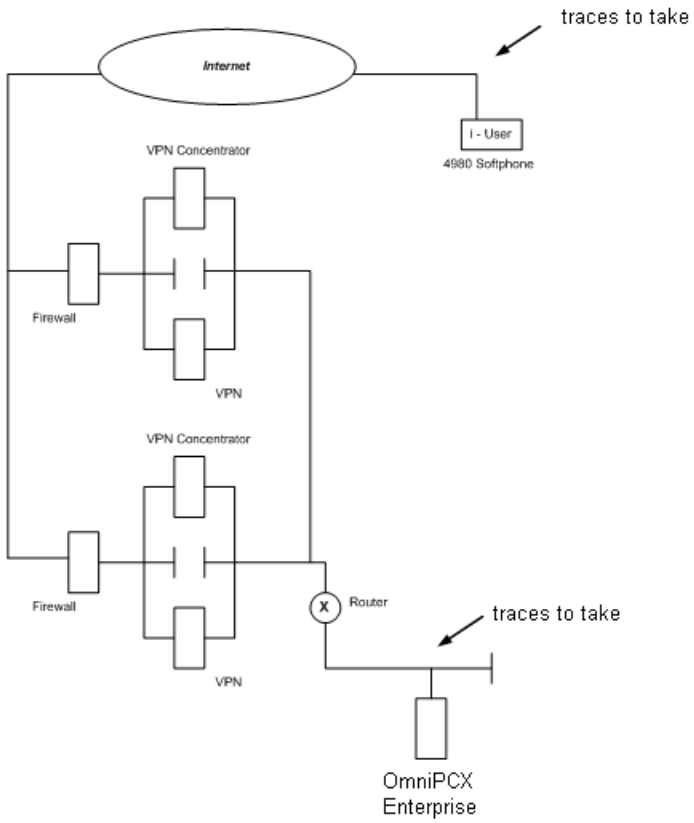
3.3 Network Protocol Analyzers

Additionally, a diagnostic tool may be used for displaying and analyzing communications protocols. With this tool, a user can test the performance of network data to make sure that the network and its hardware are operating within the network's specifications. LAN managers use protocol analyzers to plan network upgrades and expansions, and to perform network maintenance and troubleshooting tests.
Lots of Protocol Analyzers are available on the market. **Alcatel uses the free Ethereal software** for VoIP troubles. Ethereal has all of the standard features you would expect in a protocol analyzer, and runs on all popular computing platforms, including Unix, Linux, and Windows.

☞ Please refer to the Ethereal Web site to get more information about this product: http://www.ethereal.com/

Note: in case of troubles and if Ethernet traces must be retrieved, put a network protocol analyzer on both Softphone side and IP Gateway side (GD or INTIP board), as illustrated below:



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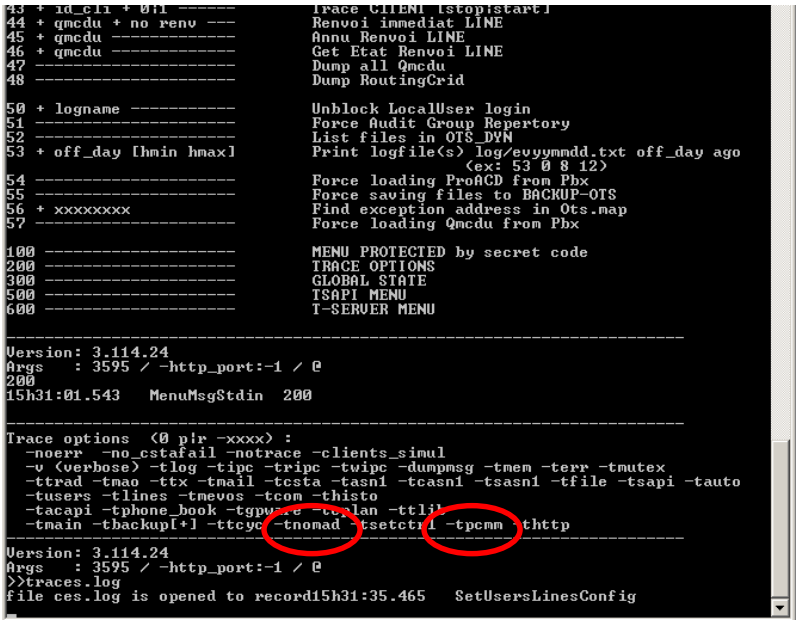
3.4 OTS Maintenance traces

OTS Maintenance console allows you to set Multi-Media PC 2 and Nomadic traces through debug options *–tpcmm* and *–tnomadic*:


43 + id_cli + 0|1 ------ Trace CLIENT [stop|start]
44 + qmcdu + no renv --- Renvoi immediat LINE
45 + qmcdu ------------- Annu Renvoi LINE
46 + qmcdu ------------- Get Etat Renvoi LINE
47 ---------------------- Dump all Qmcdu
48 ---------------------- Dump RoutingCrid
50 + logname ------------ Unblock LocalUser login
51 ---------------------- Force Audit Group Repertory
52 ---------------------- List files in OTS_DYN
53 + off_day [hmin hmax] Print logfile(s) log/evyymmdd.txt off_day ago
(ex: 53 0 8 12)
54 ---------------------- Force loading ProACD from Pbx
55 ---------------------- Force saving files to BACKUP-OTS
56 + xxxxxxxx Find exception address in Ots.map
57 ---------------------- Force loading Qmcdu from Pbx
100 ---------------------- MENU PROTECTED by secret code
200 ---------------------- TRACE OPTIONS
300 ---------------------- GLOBAL STATE
500 ---------------------- TSAPI MENU
600 ---------------------- T-SERVER MENU
Version: 3.114.24
Args : 3595 / -http_port:-1 / @
200
15h31:01.543 MenuMsgStdin 200
Trace options (0 p|r -xxxx) :
-noerr -no_cstafail -notrace -clients_simul
-v (verbose) -tlog -tipc -tripc -twipc -dumpmsg -tmem -terr -tmutex
-ttrad -tmao -ttx -tmail -tcsta -tasn1 -tcasn1 -tsasn1 -tfile -tsapi -tauto
-tusers -tlines -tmevos -tcom -thisto
-tacapi -tphone_book -tgpw
-tmain -tbackup[+] -ttcy -tnomad -tsetctrl -tpcmm -thttp
Version: 3.114.24
Args : 3595 / -http_port:-1 / @
>>traces.log
file ces.log is opened to record15h31:35.465 SetUsersLinesConfig

How to launch debug traces:

- Type `0 p -tnomad` for Nomadic traces and `0 p -tpcmm` for Multi-Media PC2 traces.
- Capture traces to a log file with the following command: `>> traces.log` (log file "*traces.log*" will be available in the OTS Maintenance directory).

Note: to remove traces, type `0 r -tnomad` and/or `0 r -tpcmm`.

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